

Claims

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We Claim:

1. In a client device, a method comprising:
 - 2 receiving externally provided control operations;
 - 3 determining a current operating state of said client device; and
 - 4 conditionally executing said control operations if execution of said control
 - 5 operations are permitted while said client device is in said determined current state.

1 2. The method of claim 1, wherein receiving externally provided control operations
includes receiving a system reset operation.

1 3. The method of claim 1, wherein receiving externally provided control operations
includes receiving a system power operation.

1 4. The method of claim 1, wherein said externally provided control operations are
received from a server device coupled to said client device over a network.

1 5. The method of claim 1, wherein said current operating state of said client device
2 is determined by inspecting at least one status register on said client.

1 6. The method of claim 1, wherein said control operations are permitted while said
2 client device is in a system hung state.

1 7. The method of claim 1, wherein said externally provided control operations are
2 received via a network data packet encapsulated according to a remote management
3 and control protocol (RMCP).

1 8. An apparatus comprising:
2 a first electronic component;
3 a bus;
4 a sensor coupled to said bus and said first electronic component; and
5 a second electronic component coupled to said bus to conditionally cause said
6 first electronic component to perform a plurality of functions through said sensor, via
7 said bus, responsive to externally provided control operations.

1 9. The apparatus of claim 8, wherein said first electronic component further
2 comprises a reset pin, and wherein said second electronic component coupled to said
3 bus conditionally causes said first electronic component to perform a reset function.

1 10. The apparatus of claim 9, wherein said first electronic component includes a
2 processor.

1 11. The apparatus of claim 8, wherein said bus includes a system management bus.

1 12. The apparatus of claim 8, further comprising a network controller.

1 13. The apparatus of claim 12, wherein said external control operations are provided
2 by a server device connected to said apparatus through said network controller.

1 14. The apparatus of claim 8, further comprising:
2 an operating system; and
3 a processor to execute said operating system.

1 15. The apparatus of claim 14, wherein said second electronic component
2 conditionally causes said first electronic component to perform said plurality of functions
3 prior to said operating system having been executed by said processor.

1 16. The apparatus of claim 8, wherein said externally provided control operations are
2 encapsulated in a remote management and control protocol (RMCP) formed data
3 packet.

1 17. In a server, a method comprising:
2 providing a first re-boot command to a remote client device to re-boot said
3 remote client device to a first operational state;
4 determining if said remote client device was successful in re-booting to said first
5 operational state; and
6 providing a second re-boot command to said remote client device to re-boot said
7 remote client device to a second operational state, if said remote client device was
8 unsuccessful in re-booting to said first operational state.

1 18. The method of claim 17, wherein said at least one of said first and second re-
2 boot commands are provided to said remote client while said remote client is in an
3 operating system unavailable state.

1 19. The method of claim 18, wherein said operating system unavailable state
2 includes an operating system hung state.

1 20. The method of claim 17, wherein said second operational state is a reduced
2 function operational state.

1 21. The method of claim 17, wherein said first re-boot command is operative to
2 select one of a plurality of boot modes.

1 22. The method of claim 21, wherein said plurality of boot modes include a safe boot
2 mode, a diagnostic boot mode, alternative operating system boot.

1 23. The method of claim 17, wherein at least one of said first and second re-boot
2 commands are encapsulated in a network data packet according to a remote
3 management and control protocol (RMCP) to be provided to said remote client device.